Field Configurable Ceiling Speaker-strobes

Genesis Series

Overview

Genesis ceiling speaker-strobes are small, compact, and attractive audible-visible emergency signaling devices. Protruding no more than 1.6" (41 mm) from the ceiling, Genesis speaker-strobes blend with any decor.

Signals feature textured housings in architecturally neutral white or eye-catching fire alarm red. An ingenious iconographic symbol indicates the purpose of the device. This universal symbol is code-compliant and is easily recognized by all building occupants regardless of what language they speak. Models with “FIRE” markings are also available.

Thanks to patented breakthrough technology, ADT Genesis strobes do not require bulky specular reflectors and lenses. Instead, an exclusive cavity design conditions light to produce a highly controlled distribution pattern. Significant development efforts employing this new technology have given rise to a new benchmark in strobe performance – FullLight technology.

FullLight strobe technology produces a smooth light distribution pattern without the spikes and voids characteristic of specular reflectors. This ensures the entire coverage area receives consistent illumination from the strobe flash.

Depending on the model, Genesis speaker-strobes feature 15 to 95, or 95 to 177 candela output (see ordering information), which is selectable with a conveniently-located switch. The candela output setting remains clearly visible even after final installation, yet it is locked in place to prevent unauthorized movement after installation.

Standard Features

- **Field configurable – no need to remove the device!**
  - Select ¼, ½, 1, or 2 watt operation
  - 15/30/75/95 cd and 95/115/150/177 cd models available
  - Switch settings remain visible *even after the unit is installed*
- **Unique low-profile design**
  - 30 per cent slimmer profile than comparable signals
  - Attractive appearance
  - No visible mounting screws
  - Available with white or red housings
- **Unparalleled performance**
  - loud 90 dBA output ensures clear, crisp audio
  - Precision timing electronics meet tough synchronizing standards for strobes when used with compatible modules
  - Highly regulated in-rush current allows the maximum number of strobes on a circuit
  - 25 V_{RMS} and 70 V_{RMS} models available, all supplied with a DC blocking capacitor for audio circuit supervision
- **Easy to install**
  - Fits all standard 4" square electrical boxes with plenty of room behind the signal for extra wire – *no extension ring or trim plate needed*
  - #18 - #12 AWG terminals – ideal for long runs, existing wiring
- **Approved for public and private mode applications**
  - UL 1971-listed as signaling devices for the hearing impaired
  - UL 1638-listed as protective visual signaling appliances
  - UL 1480-listed as fire alarm speaker
  - UL/ULC listed for ceiling or wall use

Strobe Application

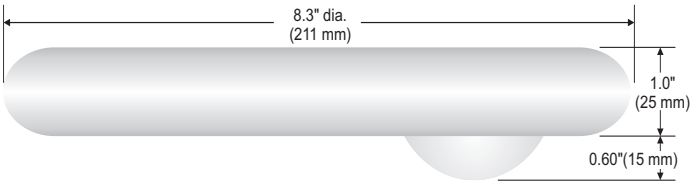
Genesis strobes are UL 1971-listed for use indoors as wall-mounted public-mode notification appliances for the hearing impaired. Prevailing codes require strobes to be used where ambient noise conditions exceed specified levels, where occupants use hearing protection, and in areas of public accommodation. Consult with your Authority Having Jurisdiction for details.

All Genesis strobes exceed UL synchronization requirements (within 10 milliseconds other over a two-hour period) when used with a synchronization source. Synchronization is important in order to avoid epileptic sensitivity.

NOTE: The flash intensity of some visible signals may not be adequate to alert or waken occupants in the protected area. Research indicates that the intensity of strobe needed to awaken 90% of sleeping persons is approximately 100 cd. ADT recommends that strobes in sleeping rooms be rated at at least 110 cd.

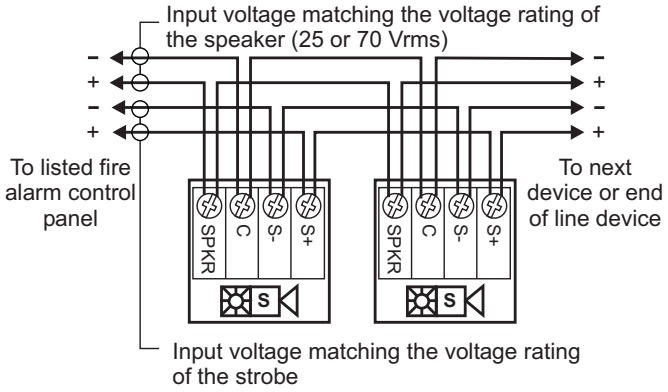
WARNING: These devices will not operate without electrical power. As fires frequently cause power interruptions, further safeguards such as backup power supplies may be required.

Dimensions



Wiring

Field wiring terminals accommodate #18 to #12 AWG (0.75 mm² to 2.5 mm²) wiring.


Input voltage matching the voltage rating of the speaker (25 or 70 Vrms)
To listed fire alarm control panel
To next device or end of line device
SPKR
C
S-
S+
Input voltage matching the voltage rating of the strobe

Sound Level Output

Wattage	25V	25V	70V	70V
	UL Rated*	Typical	UL Rated*	Typical
¼ W	80 dBA	80.7 dBA	80 dBA	81.1 dBA
½ W	84 dBA	83.7 dBA	84 dBA	83.5 dBA
1 W	87 dBA	87 .1 dBA	87 dBA	87.2 dBA
2 W	90 dBA	90.1 dBA	91 dBA	90.2 dBA

***Sound level output notes:** dBA = Decibels, A-weighted. **UL1480:** Sound level output at 10 ft (3.05 m) measured in a reverberant room using 400 to 4,000 Hz band limited pink noise. **ULC-S541:** Meets or exceeds 85 dBA in an anechoic chamber at 10 ft (3.05 m). **Directional characteristics:** Within 6 dB of on-axis sound level when measured 90° off-axis (horizontal).

Speaker Application

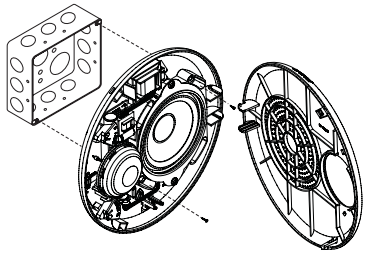
The suggested sound pressure level for each signaling zone used with alert or alarm signals is a minimum of 15 dB above the average ambient sound level or 5 dB above the maximum sound level having a duration of at least 60 seconds, whichever is greater. This is measured 5 feet (1.5 m) above the floor. The average ambient sound level is the A-weighted sound pressure measured over a 24-hour period.

Doubling the distance from the signal to the ear will theoretically cause a 6 dB reduction in the received sound pressure level. The actual effect depends on the acoustic properties of materials in the space. Doubling the power output of a device (e.g.: a speaker from 1 W to 2 W) will increase the sound pressure level by 3 dBA. A 3 dBA difference represents a barely noticeable change in volume.

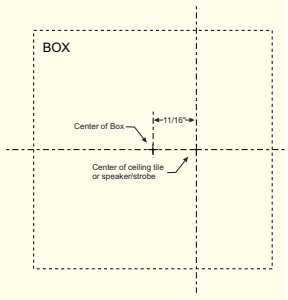
Combination audible/visual signals must be installed in accordance with guidelines established for strobes.

Installation and Mounting

All models are intended for indoor ceiling or wall applications only. Speaker-strobes are mounted to a flush North-American 4" square electrical box, $2^{1}/_{8}$" (54 mm) deep.

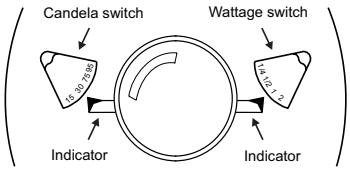


Genesis ceiling speaker-strobes simply unlatch and hinge down to open. This gains access to mounting screws and the selectable candela wattage tap switches. The shallow depth of Genesis devices leaves ample room behind the signal for extra wiring. Once installed with the cover in place, no mounting screws are visible.



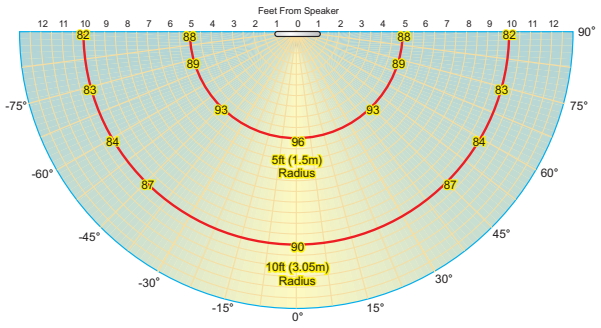
Caution:
When installed, these devices are not centered on the electrical box. Make sure boxes are mounted to compensate for this difference. Use the mounting template provided with installation sheet 3100614.

Field Configuration



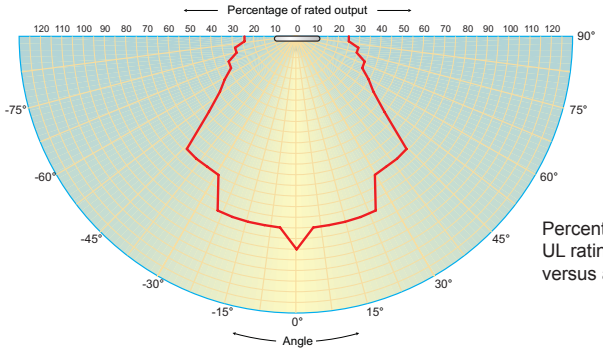
Genesis ceiling speaker-strobes may be set for ¼, ½, 1, or 2 watt operation. Depending on the model, Genesis ceiling speaker-strobes may also be set for 15/30/75/95 or 96/115/150/177 candela output (see ordering information). Output settings are changed by simply opening the device and sliding the switches to the desired settings. The speaker-strobe does not have to be removed to change the output settings. The settings remain visible through small windows on the front of the device after the cover is closed.

Typical Sound Output (dBA)



Measured at 2 watts setting in anechoic chamber

Light output - (effective cd)



Percent of UL rating versus angle

Horizontal and vertical outputs reflect the same pattern.

Current Draw

UL Nameplate Rating

	15 cd	30 cd	75 cd	95 cd
	RMS	RMS	RMS	RMS
16 Vdc	109	151	281	318
16 Vfwr	131	194	379	437

UL Nameplate Rating (high cd output models)

95 cd	115 cd	150 cd	177 cd
RMS	RMS	RMS	RMS
330	392	502	565
432	518	643	693

Typical Current

	15 cd		30 cd		75 cd		95 cd	
	RMS	Mean	RMS	Mean	RMS	Mean	RMS	Mean
16 Vdc	94	87	140	135	273	268	325	323
20 Vdc	74	68	108	105	205	203	244	242
24 Vdc	63	59	90	88	168	166	194	192
33 Vdc	48	46	70	68	124	123	139	138
16 Vfwr	126	67	187	108	368	231	403	260
20 Vfwr	108	54	156	84	281	168	333	199
24 Vfwr	97	47	139	71	240	135	270	156
33 Vfwr	89	39	119	56	197	100	214	111

Typical Current (high cd output models)

95 cd		115 cd		150 cd		177 cd	
RMS	Mean	RMS	Mean	RMS	Mean	RMS	Mean
333	330	392	390	499	496	551	545
259	257	303	301	378	375	429	426
212	210	245	243	306	304	342	340
155	153	180	174	211	209	236	234
484	283	570	339	673	411	724	446
380	212	438	248	537	312	604	352
318	172	361	198	434	243	484	273
245	123	269	137	308	160	338	176

Notes and Comments

1. Current values are shown in mA.
2. UL nameplate rating is higher than typical current due to measurement methods and instruments used.
3. ADT recommends using the typical current for system design including NAC and Power Supply loading and voltage drop calculations.
4. Use the Vdc RMS current ratings for filtered power supply and battery AH calculations. Use the Vfwr RMS current ratings for unfiltered power supply calculations.
5. Fuses, circuit breakers and other overcurrent protection devices are typically rated for current in RMS values. Most of these devices operate based upon the heating affect of the current flowing through the device. The RMS current (not the mean current) determines the heating affect and therefore, the trip and hold threshold for those devices.
6. Our industry has used 'mean' currents over the years. However, UL will direct the industry to use the 2004 RMS values in the future.

Specifications

Housing	Textured UV stabilized, color impregnated engineered plastic. Exceeds 94V-0 UL flammability rating. Red and white models available.
Mounting	Flush mount to North American 4-inch square electrical box, 2-1/8 (54 mm) inches deep, or 960A-4RF round flush box. No extension ring required. Suitable for indoor wall or ceiling applications.
Wire connections	Screw terminals: polarized inputs for speaker, #18 to #12 AWG (0.75 mm² to 2.5 mm²) wire size
Operating environment	Indoor: 32-120° F (0-49° C) ambient temperature; 0-93% relative humidity.
Agency listings/ approvals	Meets ULC-S541, year 2004 UL requirements for standards UL1638 and UL1971, FM, MEA, CSFM, and complies with UL1480 Fifth Edition. All speaker-strobes comply with ADA Code of Federal Regulation Chapter 28 Part 36 Final Rule.
Speaker	
Input/Operating Volts	25 Vrms (Model ADTGC-S2VM) or 70 Vrms (Model ADTGC-S7VM).
Speaker Cone	Speaker frequency response: 250 - 13,000 Hz. Optimized for voice intelligibility. 4-inch (102mm) mylar cone, sealed back construction, rated for 8 watts, 8 ohm voice coil.

Strobe	
Strobe output rating	UL 1971, UL 1638, ULC S526: selectable 15/30/75/95 cd (VM models) and 95/115/150/177 cd (VMH models)
Strobe operating voltage	ADTGC-S2VM/-S7VM series speaker-strobes: non-coded, filtered 16-33 Vdc or unfiltered 16-33 Vdc FWR
Strobe flash rate	ADTGC-S2VM/-S7VM series speaker-strobes: one flash per second synchronized with optional ADTG1M Genesis Signal Master indefinitely within 10 milliseconds (or self-synchronized within 200 milliseconds over thirty minutes on a common circuit without ADTG1M Genesis Signal Master) Temporal setting (private mode only): synchronized to temporal output of Genesis audible signals on same circuit
Synchronization	Meets or exceeds UL 1971 requirements. Maximum allowed resistance between any two devices is 20 Ohms. Refer to specifications for the synchronization control module, this strobe, and the control panel to determine allowed wire resistance.
Synchronization Sources	ADTG1M-RM, SIGA-CC1S, SIGA-MCC1S, BPS6A, BPS10A
Lens	Optical grade polycarbonate (clear)

Ordering Information

All speaker-strobes include field-selectable ¼, ½, 1, or 2 watt taps

Catalog Number	Housing Color	Marking	Description	Ship Wt. lbs (kg)
ADTGC-S2VM	White	None	25 Volt Speaker-strobe with selectable 15, 30, 75, or 95 cd output	2.25 (1.0)
ADTGCF-S2VM	White	“Fire”		
ADTGCFR-S2VM	Red	“Fire”		
ADTGC-S2VMH	White	None	25 Volt Speaker-strobe with selectable 95, 115, 150, or 177 cd output	2.25 (1.0)
ADTGCF-S2VMH	White	“Fire”		
ADTGC-S7VM	White	None	70 Volt Speaker-strobe with selectable 15, 30, 75, or 95 cd output	2.25 (1.0)
ADTGCF-S7VM	White	“Fire”		
ADTGCFR-S7VM	Red	“Fire”		
ADTGC-S7VMH	White	None	70 Volt Speaker-strobe with selectable 95, 115, 150, or 177 cd output	2.25 (1.0)
ADTGCF-S7VMH	White	“Fire”		

Accessories		
ADTG1M-RM	Genesis Signal Master Module (1-gang)	0.2 (0.1)
SIGA-CC1S	Intelligent Synchronization Output Module (2-gang)	0.5 (0.23)
SIGA-MCC1S	Intelligent Synchronization Output Module (Plug-in UIO)	0.18 (0.08)

White Field configurable Speaker-Strobes may be ordered with or without 'FIRE' marking. Red Speaker-Strobes come with “FIRE” marking.

ADT recommends that these fire alarm speaker-strobes always be installed in accordance with the latest recognized edition of national and local fire alarm codes.

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